

Customer :
 Project Name :
 Project No. :
 Revision No. :

SPECIFICATION for INDUCTION MOTOR



0		For Bidding			
No.	DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY

AC INDUCTION MOTOR DATA SHEET

Catalog No.	HSDE450-18-5009-IBBRSRSH	Item No.		Rev. No.	[]
Project Name		Project No.		Quantity	sets

GENERAL SPECIFICATION			PERFORMANCE DATA					
Frame Size	5009		Rated Output	335 kW 450 HP				
Type	PJP		Number of Poles	4				
Enclosure(Protection)	Totally Enclosed / IP55		Rotor Type	Squirrel Cage				
Method of Cooling	IC411(FC)		Starting Method*	D.O.L				
Rated Frequency	60 Hz		Rated Voltage	575 V	460 V	230 V		
Number of Phases	3		Current	Full Load	392.9 A	491.1 A 982.2 A		
Insulation Class	F			Locked-rotor**	720 %	720 % 720 %		
Temp. Rise at full load (by resistance method)			Efficiency					
at 1.0 S.F			80 deg. C					
Motor Location	<input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor		50% Load		93.2 %			
Altitude	Less than 1,000 meter		75% Load		95.2 %			
Relative Humidity	Less than 80 %		100% Load		96.2 %			
Ambient Temp.	40 deg. C (Max.)		Power Factor(p.u)					
Duty Type	Continuous (S1)		50% Load		0.740			
Service Factor	1.15		75% Load		0.840			
Mounting	B3		100% Load		0.890			
Bearing	Type	Anti-Friction	Speed at Full Load					
	DE/N-DE	NU324 / 6320C3-INS.	1785 r.p.m					
	Lubricant	Grease(Polyrex-EM)	Torque					
External Thrust	Not applicable		Full Load		1,322.2 lb.ft			
Coupling Method	<input type="checkbox"/> Direct <input type="checkbox"/> V-belt		Locked-rotor**		135 %			
Shaft Extension	Single		Breakdown**		230 %			
Terminal	Main	Cast Iron	Moment of Inertia (J)					
Box	Aux.	Yes	Load(Max.)		1,710.000 lb.ft2			
	Location	Refer to Outline Drawing	Motor		158.058 lb.ft2			
Application			Sound Pressure Level (No-load & mean value at 1m from motor)					
Area classification	Hazardous		85 dB(A)					
Type of Ex-Protection	Class I&II, Division 2		Vibration					
Applicable Standard	NEMA MG1, CSA C390		3.8 mm/sec (peak)					
ACCESSORIES *. B.T.D.(Pt 100 Ω at 0°C,Single) : 2EA/Motor *. W.T.D.(Pt 100 Ω at 0°C) : 2EA/Ph. *. Space Heater : 1EA/Motor			Permissible number of consecutive starts					
			Cold		2 times			
			Hot		1 time			
			Paint	Munsell No.	4.0PB5.4/5.5(VL-451)			
			SUBMITTAL DRAWING					
REMARK								
1. Premium efficiency according to NEMA MG1 2. Inverter Duty @ 1.0 Service Factor & F Temperature rise -. 10:1 VT (20:1 VT at 50% load) -. 10:1 CT -. CHp up to 1.5 times base speed, NEMA MG1 Part31 3. NDE side : Insulated bearing 4. CSA Certification -. Class I, Division 2, Group A, B, C & D; Temp code : T3 -. Class II, Division 2 Group F & G; Temp code : T3 5. Shaft material : AISI4140								
SPARE PARTS								
Date		DSND	CHKD	CHKD	APPD			
2024-09-10		S.H. Lee	I.K. Kim	R.G. Kim	S.W. Kim			

[Note] Others not mentioned in this data sheet shall be in accordance with maker standard.
 Above technical data are only design values and shall be guaranteed with tolerance of applicable standard.
 Inspection and performance test shall be done according to maker standard, if not mentioned.
 * In case of Inverter-Fed Motor, performance data is based on sine wave tests. It may be different from test data of Inverter combined motor.
 ** Data is based on rated voltage & frequency and is expressed as a percentage of full-load value.

본 도면은 HD현대일렉트릭(주) 재산이며
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REV	DATE	CONTENTS	REVD BY CHKD BY CHKD BY APPD BY

4.72




CROWN TRITON
Premium Efficiency AC 3 Phase Motor




450HP	4P	460V	Cat. No.	HSDE450-18-5009-IBBRSRSH			
Model	LATER		INS. Class	F	Amps	491.1	
Type	PJP	Duty	Code	G	Amb.	40°C	
Frame	5009	Encl.	S.F.	1.15	RPM	1785	
Bearing	Drive	NU324	S.F.1.00 (10:1 C.T., 20:1 V.T., NEMA-MG1 Part31)		NEMA Nom. Eff.	96.2%	
	Opp.	6320C3-INS.			NEMA Design	B	
Usable at	50Hz 335HP 380V 449.62A 1485rpm S.F.: 1.15 Eff.: 96% Code: H						
	50Hz 335HP 400/415V 426.69/416A 1486/1487rpm S.F.: 1.15 Eff.: 96.1/96.1% Code: J/K						
CSA Certified for	CLASS I, Div. 2, Gr. A, B, C & D		CLASS II, Div. 2, Gr. F & G		Temp. Code (sine wave)	Frame	L440FR - 500FR
	CLASS I, Zone 2, Gr. IIA, IIB, & IIC					Amb. 40°C	T3 (200°C)
						Amb. 55°C	T3 (200°C)
No.	-		Date	-		Weight	3970 lb
	4M-136053		Made in Korea H1				

MARINE DUTY IEEE45 

2.36

APPD BY	S.Y.KIM	UNIT	INCH	SUBJECT	CSA Class I, Division2 Severe Duty (HSDE ,L449-500)	DWG SIZE	A4 (1:1)
CHKD BY	I.K.KIM	SCALE	NONE				
CHKD BY	R.G.KIM	PROJEC'N	3rd Angle	NAMEPLATE DRAWING			
DSND BY	S.H.LEE	DATE	2024.06.07				
				REF. NO	4M-136053	Sheet No.	of
				DWG NO	NP-HSDE450-18-5009-IBBRSRSH	Revision No.	0



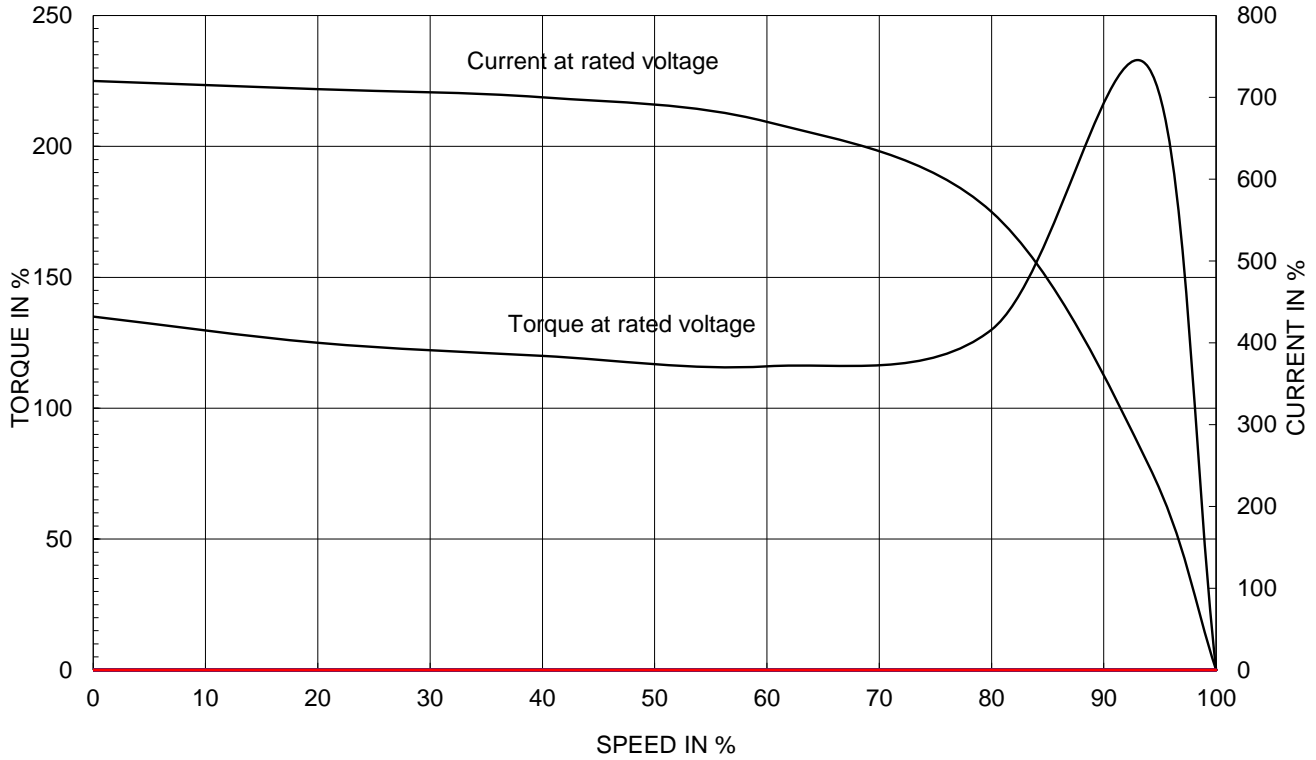
PERFORMANCE CURVE

CURVE NO.
PC-HSDE450-18-5009-IBBRSRSH

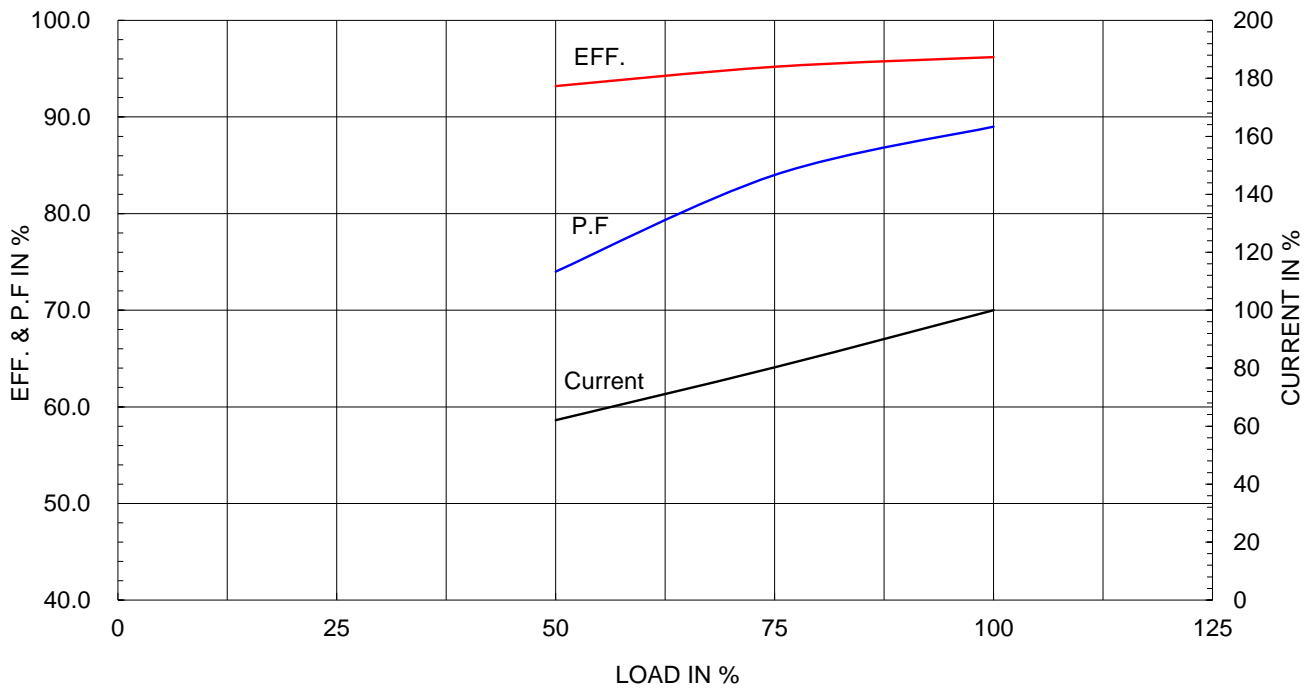
Type :	PJP
Full Load Torque :	1322.2 lb.ft
Load moment of Inertia (J) :	1710.000 lb.ft2
Motor moment of Inertia (J) :	158.058 lb.ft2

335kW 450HP	4 P	60 Hz
Speed at Full Load :		1785 RPM
Rated Voltage	575V	460V 230V
Full Load Current	392.9A	491.1A 982.2A

SPEED VS TORQUE & CURRENT CURVE



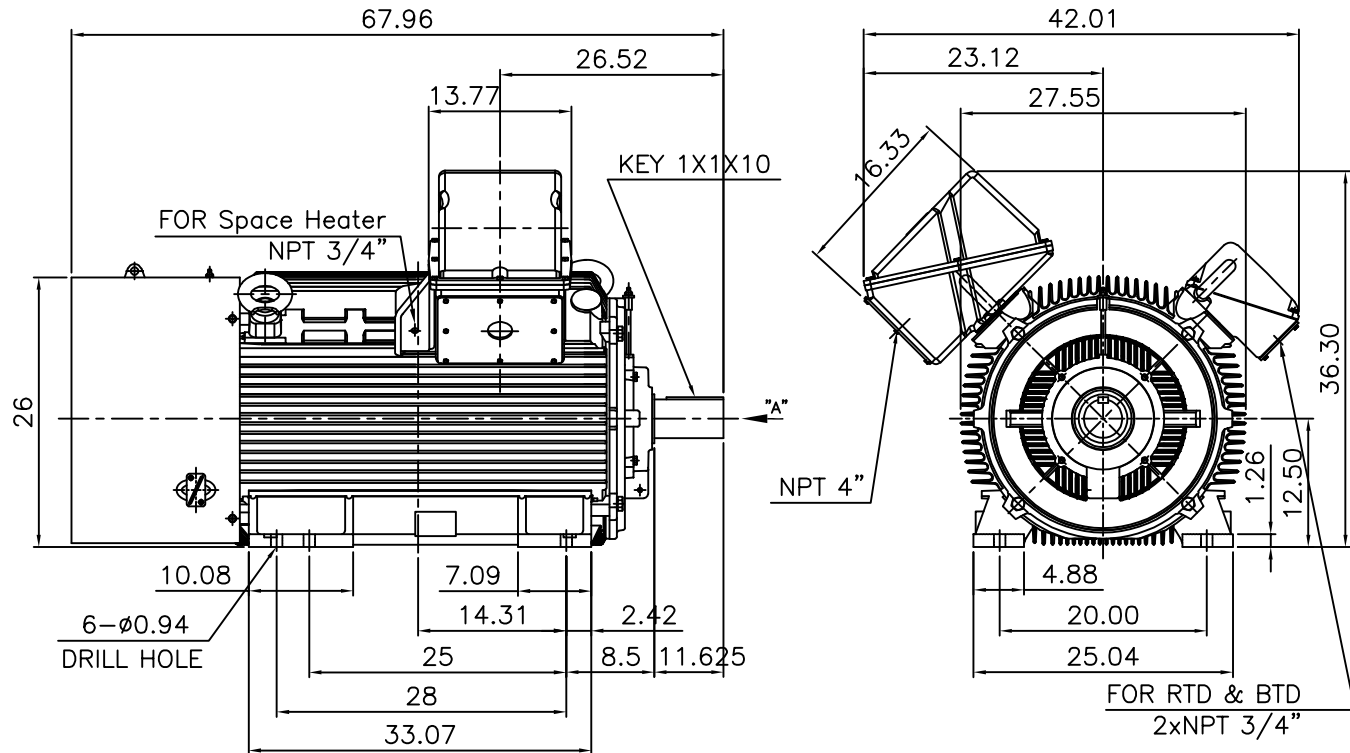
OUTPUT VS EFF., P.F & CURRENT CURVE



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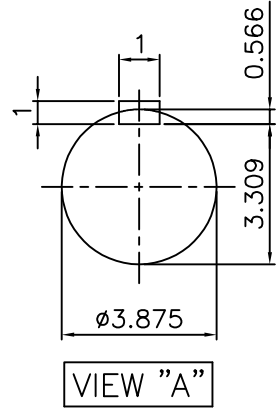
▽	50S	REV	DATE	CONTENTS	REVD BY	CHKD BY	CHKD BY	APPD BY
▽▽	12.5S							
▽▽▽	3.2S							
▽▽▽▽	0.4S							



NOTE

1.TOLERANCE :

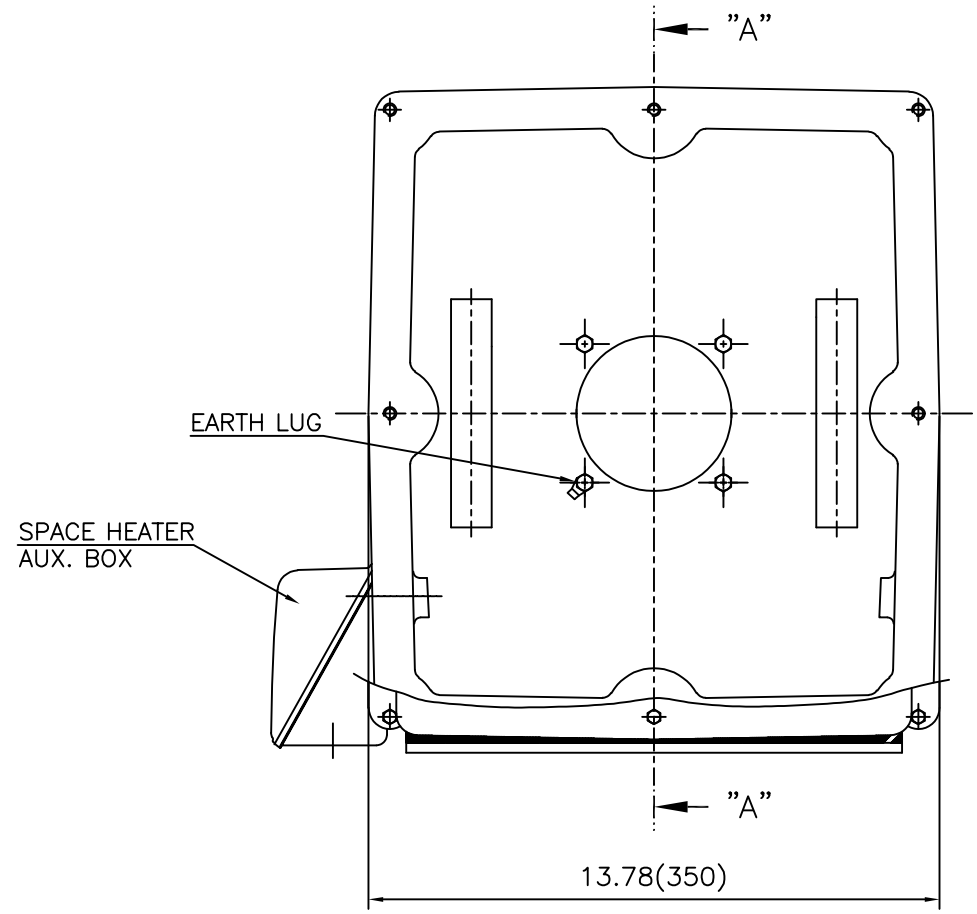
CENTER HEIGHT	12.5	+0.000	-0.060
SHAFT DIAMETER	ø3.875	+0.000	-0.001
KEYWAY WIDTH	1	+0.003	-0.000



APPD BY	S.Y.KIM	UNIT	INCH	SUBJECT	Fr.5008 / 5009	DWG SIZE	A4 (1:19)
CHKD BY	O.J.KIM	SCALE	1/19	TITLE	OUTLINE		
CHKD BY	R.G.KIM	PROJEC'N	3각법(3rd Angle)	REF. NO		Sheet No.	of
DSND BY	H.K.LEE	DATE	2021-04-27	DWG NO	LM-T0509B3P7001	Revision No.	0



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IEEE 841**



SEC. "A" - "A"

REV	DATE	CONTENTS	REVD BY	CHKD BY	CHKD BY	APPD BY

APPD BY	S.Y.KIM	UNIT	inch(mm)	SUBJECT	FR. L440 (CAST IRON)	DWG SIZE
CHKD BY		SCALE	1/3.5	TITLE	MAIN TERMINAL BOX ASS'Y	A3 (1:3.5)
CHKD BY	R.G.KIM	PROJEC'N	3rd Angle			
DSND BY	최승희	DATE	2023-10-19			
				REF. NO		Sheet No. of
				DWG NO	3M-248452	Revision No. 0

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IEEE 841**

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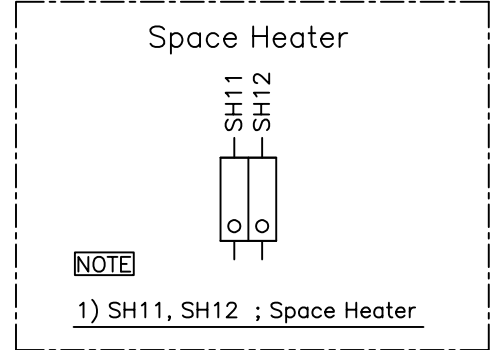
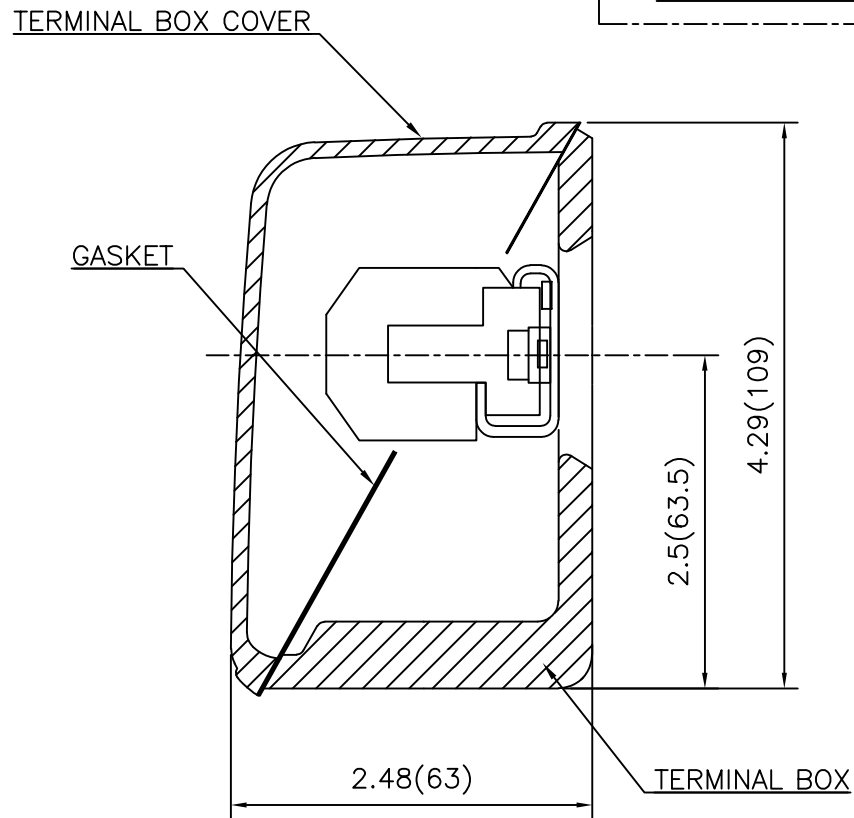
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REV	DATE	CONTENTS	REVD BY	CHKD BY	CHKD BY	APPD BY

APPD BY	S.Y.KIM	UNIT	inch(mm)	SUBJECT	FR.360 (CAST IRON)	DWG SIZE	A3 (1:2.2)
CHKD BY		SCALE	1/1	TITLE	AUX. TERMINAL BOX ASS'Y	REF. NO	Sheet No. of
CHKD BY	R.G.KIM	PROJEC'N	3rd Angle	DWG NO		3M-165277	Revision No.
DSND BY	박승희	DATE	2024-01-18				

Cls. I&II, Div. 2 IEEE 841



REV	DATE	CONTENTS	REVD BY	CHKD BY	CHKD BY	APPD BY

APPD BY	S.Y.KIM	UNIT	inch(mm)	SUBJECT	FR.180 (CAST IRON)	DWG SIZE
CHKD BY		SCALE	1/1	TITLE	SUB. TERMINAL BOX ASS'Y	
CHKD BY	R.G.KIM	PROJEC'N	3rd Angle	REF. NO		Sheet No. of
DSND BY	배승희	DATE	2024-01-18	DWG NO	3M-165277	Revision No. 0

